



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,882	06/01/2001	Yuet-Ying Yu	FIS920010048US1	3167

7590 09/25/2002
Sean F. Sullivan
Cantor Colburn LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER

NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
----------	--------------

2827

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,882

Applicant(s)

YU ET AL.

Examiner

Jeremy C. Norris

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 24-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-23, drawn to a flexible conductive sheet, classified in class 174, subclass 254.
- II. Claims 24-46, drawn to a method of making a flexible conductive sheet, classified in class 29, subclass 846.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the gold layer in the invention of Group I could be formed by chemical deposition as opposed to plating as claimed in the invention of Group II.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr Sean Sullivan (38,328) on 23 September 2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23-46 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of the sentence "A flexible conductive sheet is disclosed.". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 6-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is unclear because as drafted it is difficult to determine which metals are to comprise the adhesion layer. Examiner's best interpretation is that the so-called adhesion layer is comprised of the copper and chromium layers, with the nickel layer plated over that combination and the gold layer further formed over the three preceding layers. This interpretation has been used for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,900,316, granted to Yu (hereafter Yu) and US 5,633,479, granted to Hirano (hereafter Hirano).

Yu discloses, referring to figure 5, a flexible sheet (38), comprising: a polyimide base layer (50, see col. 6, lines 1-5); and a metallic layer (52, 54, 56, 58). Yu does not specifically disclose that the metallic layer is formed in a grid pattern upon said base layer [claim 1]. However, Yu teaches that the flexible sheet may be used as an electrical field shield for electronic components or other electrical parts (see col. 7, lines 15-20). Additionally, Hirano teaches, referring to the prior art of figure 1, a shield layer (31-2) comprising a polyimide base layer (32) and a metallic layer (GP) formed in a grid pattern. Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to form the metallic layer into a grid pattern as taught by Hirano. The motivation for doing so would have been to employ the flexible sheet in an effective shielding layer as suggested by both Yu and Hirano. Furthermore, it has been held that

more than a mere change of form is necessary for patentability. *Span-Deck, Inc v. Fab-Con, Inc.* (CA 8, 1982) 215 USPQ 835.

Moreover the modified invention of Yu and Hirano discloses that the flexible sheet further comprises a plurality of metallic layers, formed upon said base layer, at least one of said plurality of metallic layers formed in said grid pattern [claim 2], wherein said plurality of metallic layers further comprise: an adhesion layer, said adhesion layer further comprising: a chromium layer (52), applied upon said polyimide base layer; and a copper layer (54), formed upon said chromium layer; a nickel layer (56), formed upon said adhesion layer; and a gold layer (52), formed upon said nickel layer [claims 3, 10-16], wherein said chromium layer is about 250 angstroms in thickness [claim 6], wherein said nickel layer is about 20,000 angstroms in thickness [claim 8], wherein said gold layer is about 350 to about 15,000 angstroms in thickness [claim 9], wherein said nickel layer provides a diffusion barrier between said adhesion layer and said gold layer [claim 17], wherein said gold layer has low contact resistance [claim 18], wherein said gold layer protects underlying layers from oxidation [claim 19], wherein said grid pattern further comprises: a plurality of horizontally oriented strips; and a plurality of vertically oriented strips claim 20]. Examiner notes that the limitations express in claims 10-16 are process limitations in a product claim. It is well settled that the presence of process limitations in product claims, which product does not otherwise distinguish over the prior art, cannot impart patentability to that product. (*In re Thorpe*, 227 USPQ 964, 966)

Regarding claims 4, 5, 7, and 21-23, the expressed limitations are only to specific sizes or range of sizes. it would have been obvious, to one having ordinary skill in the

Art Unit: 2827

art, at the time of invention, to adapt the modified invention of Yu and Hirano to accommodate any of the expressed sizes as such a modification would merely involve a change of size. Moreover, a change in size is generally recognized as being within the level or ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,184,476	Takahashi et al.,
US 6,228,511	Sachdev et al.,
US 6,303,977	Schroen et al.,
US 6,313,651	Hembree et al.,
US 6,337,522	Kang et al.,
US 6,378,199	Yoshinuma et al.
US 6,410,858	Sasaki et al.,
US 6,466,481	Marutsuka.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers


Art Unit: 2827

for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN

September 23, 2002



DAVID L. TALBOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800